Abstract

This paper presents the effects of slots cut on the patches of a single substrate layer Frequency
Selective Surface (FSS) in the aspect of multiband characteristics enabling applications in different fields like Wi-Fi, WiMAX, RADAR etc with reduced resonating frequency. Each FSS periodic cell consists of a metallic square patch loaded with two back to back slots of seven variable length strips. This designed FSS provides total seven reflection bands along with reduced patch size. The proposed design has been investigated both theoretically using ANSOFT® software and practically. In comparison to the conventional square patch Frequency Selective Surface (FSS) without slot, this slotted square patch FSS can provide reduction in resonant frequency resulting in size reduction up to 94%. The structure acts like a band reject filter with seven bands having resonant frequencies of 5.1 GHz, 7.06 GHz, 11.87 GHz, 14.55 GHz, 17.89 GHz, 19.65 GHz and 22.77 GHz.

References


Index Terms

Computer Science

And Sensor Network

Keywords

Frequency Selective Surface  Method Of Moments  Slot  Bandwidth  Size Reduction